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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,924	11/19/2001	Christopher J. Orlick	MATP-612US	9367
23122	7590	12/13/2007	EXAMINER	
RATNERPRESTIA			TRAN, TRANG U	
P O BOX 980			ART UNIT	PAPER NUMBER
VALLEY FORGE, PA 19482-0980			2622	
			MAIL DATE	DELIVERY MODE
			12/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/988,924

Applicant(s)

ORLICK ET AL.

Examiner

Trang U. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,7,9-12,18-24 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3,5,7,9-12,18-24,26,27 and 31 is/are allowed.
- 6) ☒ Claim(s) 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date: 11/28/2007.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Response to Arguments

2. Applicant's arguments with respect to claims 28-29 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell et al. (US Patent No. 4,989,090) in view of Hong (US Patent No. 5,483,288).

In considering claim 1, Campbell et al discloses all the claimed subject matter, note 1) the claimed a motion detector which determines a degree of movement in a region of a target pixel position between a last displayed image and a current image to generate a static level value is met by the motion detector 30 (Figs. 1 and 3, col. 6, line 52 to col. 8, line 68), 2) the claimed an intra-field interpolator which generates an intra-field interpolated pixel value is met by the intra-field interpolator 28 (Fig. 1, col. 6, line 52 to col. 8, line 68), 3) the claimed a non-linear interpolator which generates an non-linear interpolated pixel value is met by the temporal median filter interpolator 22 (Fig. 1, col. 5, line 19 to col. 6, line 51), and 4) the claimed a weighted averaging circuit that

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combines the intra-field interpolated pixel value and the non-linear interpolated pixel value in proportion to the static level value to produce an output interpolated pixel value for the progressive scan video image is met by the switch 26 which may be implemented as two fractional multiplier for weighted combines between intra-field interpolator 28 and the temporal median filter interpolator 22 (Fig. 1, col. 6, line 52 to col. 7, line 37).

However, Campbell et al explicitly do not disclose the claimed the median filter is a nonlinear.

Hong teaches that the median filter system is difficult to be compatible with images involving white noises, due to the characteristic of median filter, furthermore, the median filter system performs only nonlinear operations, resulting in an increased possibility of an overlap phenomenon (col. 1, lines 63-67).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the nonlinear median filter as taught by Hong into Campbell et al's system in order to generate an interpolation component utilizing pseudo median filters to increase the quality of the interpolated signal.

5. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell et al. (US Patent No. 4,989,090) in view of Hong (US Patent No. 5,483,288) and further in view of Jiang et al (US Patent No. 6,421,090 B1).

In considering claim 29, the combination of Campbell et al and Hong disclose all the limitations of the instant invention as discussed in claim 28 above, except for providing the claimed wherein the motion detector includes: a plurality of subtractors for

generating a respective plurality difference values, each representing a difference between a selected pixel position in the current image and a respective corresponding pixel position in the last displayed image; a maximum comparator which determines a maximum difference value of the plurality of difference values; and a plurality of further comparators which compare the maximum difference value to respectively different threshold values to determine the degree of movement in the region of the target pixel position wherein the static level value is provided responsive to the further comparators that have respective threshold values which are less than the maximum difference value.

Jiang et al teach that the motion detector which includes segmenting pixels together by analyzing groups of pixels around pixel X for succession of fields, blocks 202c-202f generating the differences between respective pairs of segments of pixel adjacent (or containing) pixel X from successive fields, block 208 which detects the maximum difference values, and the reloadable look-up table 210 comparing the maximum difference value to multiple respectively different threshold values to determine the degree of movement in the region of the target pixel position (Figs. 3-4, col. 6, line 10 to col. 7, line 41).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the motion detector as taught by Jiang et al into the combination of Campbell et al and Hong's system in order to accurately detect the movement of the video signal.


Allowable Subject Matter

6. Claims 1-3, 5, 7, 9-12, 18-24, 26-27 and 31 are allowed.
7. Claim 30 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trang U. Tran whose telephone number is (571) 272-7358. The examiner can normally be reached on 8:00 AM - 5:30 PM, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 04, 2007


Trang U. Tran
Primary Examiner
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